

ABSTRACT OF THE DISCLOSURE

This invention provides an article of manufacture and method for controlling the application of a coupling agent, such as a silicone oil or mineral oil, on a surface of a tissue prior to contacting the tissue with an apparatus for non-invasive optical measurement of the concentration of an analyte. Such an apparatus is shown in WO 99/59464. The article ensures that a specific quantity of the coupling agent is deposited in a uniform layer over the entire target area of the tissue, thereby enhancing both the optical signal and the repeatability of thermal and optical coupling with the components of the apparatus. The coupling agent can comprise any of the coupling agents described in U. S. Patent No. 6,241,663 that have desirable coupling properties for this application. In one embodiment, the article comprises (a) a backing and (b) a layer of coupling agent on at least one major surface of the backing. In this embodiment, the material of the backing must not absorb an excessive amount of the coupling agent. In an alternative embodiment, the article can comprises (a) a backing, (b) a layer of fibrous or non-fibrous material overlying the backing, and (c) a layer of coupling agent on the major surface of the layer of fibrous or non-fibrous material not in contact with the backing. In the alternative embodiment, the layer of layer of fibrous or non-fibrous material prevents the coupling agent from being absorbed by the backing.